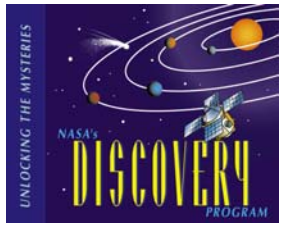


Getting Involved with the Discovery Program

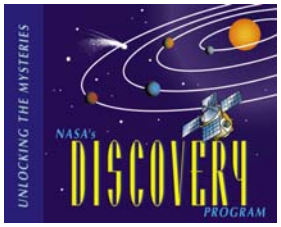
Presentation to MU-SPIN Conference

September 14, 2000

Shari Asplund

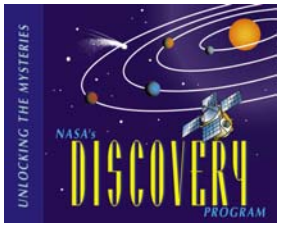
Discovery Program Outreach Manager

NASA's Discovery Program



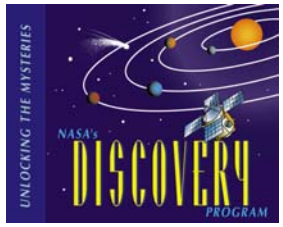
- Represents the implementation of NASA Administrator Daniel Goldin's vision of "Faster, Better, Cheaper" planetary missions
- Encompasses a series of low-cost solar system exploration missions intended to accomplish high quality, focused planetary science investigations using innovative, streamlined, and efficient approaches to assure the highest science value for the cost
- Aims to enhance our understanding of the solar system by exploring the planets, their moons and other small bodies, either by traveling to them or remotely from the vicinity of Earth.

Supporting Objectives of the Program



- Provide exciting and important scientific data to the global community
- Pursue new and innovative ways of doing business
- Encourage technologic development by designing and testing new technologies and transferring them to the private sector
- Increase public awareness of, and appreciation for, solar system exploration through exciting education and public outreach activities
- Support national education initiatives through mission-specific programs
- Ensure participation of small disadvantaged businesses, women-owned businesses, HBCUs and other minority educational institutions in procurements

Program Attributes



- Competitively selected through NASA AO process
- PI leads mission and is responsible for cost, schedule and performance
- Keep performance high and expenses low using new technologies and strict cost and schedule caps ($299M and 36 months development)
- Increase flight rates with a launch every 18 to 24 months
- Teaming arrangements are encouraged with
  - NASA Centers
  - Research Laboratories
  - Industrial Partners
  - Universities
- Education and Public Outreach program required

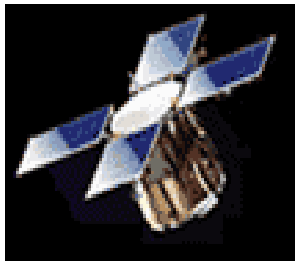
Discovery Missions

Accomplishments to date establish a firm, community-based foundation for solar system exploration and have exceeded all goals for technical performance, cost, and schedule

Mars evolution: Mars Pathfinder

Lunar formation: Lunar Prospector

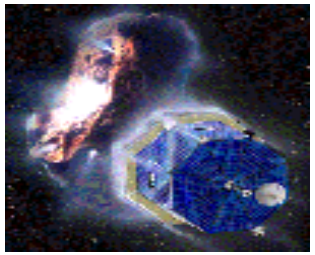
NEO characteristics: NEAR



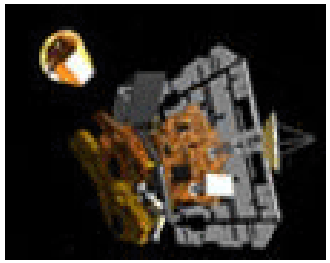
Nature of dust/coma: Stardust

Missions now in development will set new standards for increased capability within costs and schedule constraints

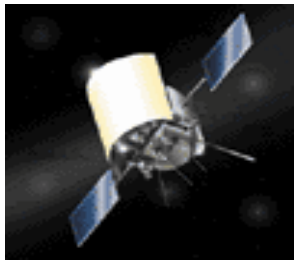
Solar wind sampling: Genesis



Comet diversity: CONTOUR

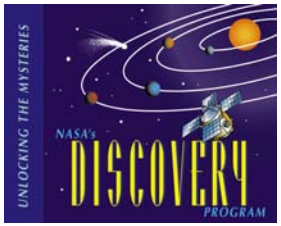


Comet internal structure: Deep Impact



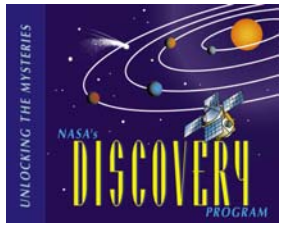
Mercury environment: MESSENGER

How Can You Get Involved in the Technical Part?



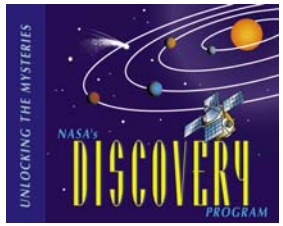
- Enroll in science, math and engineering courses
- Work hard, study in groups, do hands-on research
- Demand excellence from yourself
- Get to know your professors and find a mentor, especially one who could be a potential PI
- Take advantage of programs offered by your schools, corporations, professional societies
- Join professional societies and attend conferences
- Stay informed about the latest developments in your field of interest by reading publications such as “Sky & Telescope” and “Scientific American”

How Can You Get Involved in the Technical Part? (continued)



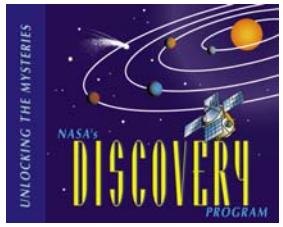
- Go to NASA's **Education Program--Resources for Students** web page (http://education.nasa.gov/students.html) to find "Research and Development Opportunities"
  - Cooperative Education Program
  - Graduate Student Researchers Program
  - National Space Grant College and Fellowship Program
- Get to know the Minority Affairs Officer at the NASA Center near you--they can help students get connected
- Find out about MURED programs; apply for grants and internships
- Follow mission web pages, learn how the science develops and evolves over time

NASA/OSS E/PO Goals



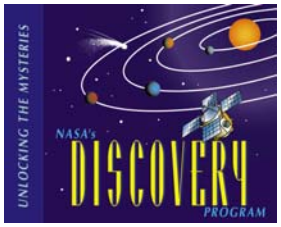
- Use our missions and research programs and the talents of the space science community to contribute measurably to efforts to reform science, math and technology education and to elevate scientific and technical understanding throughout the country
- Cultivate the development of strong and lasting partnerships between the space science community and science/math/technology education community
- Contribute to the creation of a talented scientific and technical workforce
- Promote involvement of underserved/underutilized groups in space science
- Share the excitement of discoveries and knowledge generated by space science missions and research programs by communicating clearly with the public

How Can You Get Involved in Education and Public Outreach?



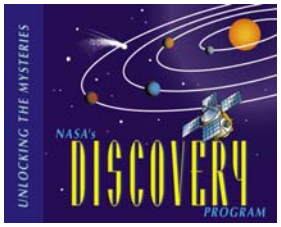
- Make Connections!
- Best way is to get involved at the proposal stage
- Check the OSS Research Opportunities announcements
  - AOs, NRAs, IDEAS grants, Scientist-Teacher Partner Grants
  - Get your professors to help you make connections
- Utilize the expertise of the OSS E/PO Support Network
  - Contact the OSS Educational Forum Directors - four science themes; each Forum covers the entire country
  - Contact the OSS Broker/Facilitator in your region-each broker covers all four themes
    - Can help make connections, willing to review proposals
    - Maintain a directory of Prospective E/PO Partners (http://ssibroker.colorado.edu/broker/Partner_Directory/)

How Can You Get Involved in E/PO? (continued)



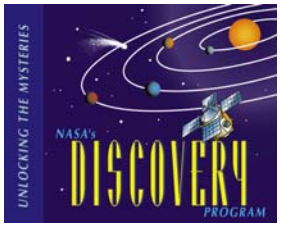
- Find out what institutions are involved in education and outreach and connect with them
- At JPL, contact Anita Sohus, leader of Proposal Advisory Council (anita.m.sohus@jpl.nasa.gov)
- At APL, contact Nicola Fox (nicola.fox@jhuapl.edu)
- Read mission web pages; become familiar with each mission's unique approach to E/PO
- If you have something significant to offer, contact the mission E/PO lead to discuss your ideas; there may be opportunities for partnerships during the later phases

How Can You Get Involved in E/PO? (continued)



- MU-SPIN is a partner on the MESSENGER mission because of **connections**--someone knew someone who was involved in the proposal
- Many in the space science community work on multiple missions--get to know them and find out how you can play a role
- Contact me if you want help in connecting with a current Discovery mission (shari.e.asplund@jpl.nasa.gov)

References



NASA Education Programs
NASA Resources for Students
http://education.nasa.gov/students.html
A Guide to NASA Education Programs
http://ehb2.gsfc.nasa.gov/edcats/2000/nep/programs/
NASA Research and Development Opportunities for Students
http://education.nasa.gov/stures.html
National Space Grant College and Fellowship Program
http://education.nasa.gov/spacegrant/index.html

Professional Associations
American Astronomical Society
http://www.aas.org
American Geological Institute
http://www.agiweb.org
American Geophysical Union
http://www.agu.org
American Indian Science and Engineering Society
http://www.aises.org
American Institute of Aeronautics and Astronautics
http://www.aiaa.org
Astronomical Society of the Pacific
http://www.aspsky.org
American Mathematical Society
http://www.ams.org
American Association for the Advancement of Science
http://www.aaas.org
Association for Women in Science
http://www.awis.org
Division for Planetary Sciences (of the American Astronomical Society)
http://www.aas.org/dps2000/
Meteoritical Society
http://www.uark.edu/campus-resources/metsoc/index1.htm
National Society of Black Engineers
http://www.nsbe.org
National Society of Black Physicists
http://www.nsbp.org
National Society of Hispanic Physicists
http://utopia.utb.edu.nshp/
Planetary Society
http://planetary.org/
Society of Women Engineers
http://www.swe.org
Women in Technology International
http://www.witi.com/index-c.shtml

NASA Office of Space Science Education Forums
Astronomical Search for Origins and Planetary Systems
http://www.stsci.edu/stsci
Structure and Evolution of the Universe
http://pluto.harvard.edu/sao-home.html
Solar System Exploration
http://sse.jpl.nas.gov
Sun-Earth Connection
http://sunearth.gsfc.nasa.gov

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